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CHAPTER SIX

MISHAP INVESTIGATION

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This chapter defines who is responsible for conducting naval aviation mishap investigations, describes the relationship these investigations have to other investigations, as well as the purposes and procedures for naval aviation mishap investigations.

601. GENERAL

A naval aviation mishap signals a failure in the Naval Aviation Safety Program. It is evidence we failed to detect and eradicate the hazards which caused this mishap before it was too late. It is not too late, however, to keep it from happening again - which is why we investigate aviation mishaps with such vigor.

602. PURPOSE OF AVIATION MISHAP INVESTIGATIONS

Naval Aviation mishap safety investigations have but one purpose and that is to answer the question, "Why?" The mishap investigation is a search for causes; it looks for undetected hazards and tries to identify those factors that caused the mishap as well as those that caused any additional damage or injury during the course of the mishap. Mishap investigations also demonstrate an organization's commitment to their safety

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program. All naval aviation mishap safety investigations are conducted solely for safety purposes.

603. TYPES OF INVESTIGATIONS

As a result of aviation mishaps, various agencies conduct separate investigations for different purposes. We must have a clear understanding of the differences between these investigations and work to preserve the relationship between them.

a. Aviation Mishap Safety Investigations. Naval aviation mishap safety investigations encompass those investigations of naval aviation Flight Mishaps, Flight-Related Mishaps, and Aviation Ground Mishaps conducted under the auspices of this instruction. No other investigation relieves a command from the responsibility to conduct a mishap safety investigation. AMBs, appointed and maintained by aircraft and UAV reporting custodians, conduct naval aviation mishap investigations. Squadron officers, trained at the Aviation Safety Officer's Course and flight surgeons, trained at the Naval Aerospace and Operational Medical Institute are members of the board. This system of squadron-level AMBs is consistent with one of the basic tenants of the Naval Aviation Safety Program that an individual or command detecting a hazard is obliged to others in this profession to report that hazard as soon as it is detected. The system supports and encourages mutual trust and confidence common among naval aviators and avoids both the specter of adversarial investigations of one command by another and the implication that safety is the business only of higher authority.

In addition:

(1) The system of squadron level AMBs provides for close coordination of the AMB with other mishap-related responsibilities of the reporting custodian, which include:

- (a) Operational Reporting (OPREP, SITREP).
- (b) Telephone and message MDRs.
- (c) Casualty reports.
- (d) Notification of next of kin.
- (e) Reports of loss of classified material.

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(f) Aircraft custody and status change (x-ray) reports.

(g) Material deficiency reports and requests for engineering investigations.

(h) Requests for Planning and Estimator (P&E) services.

(i) Requests for technical assistance.

(j) Requests for recovery of submerged wreckage.

(2) The system of squadron level AMBs also ensures that Board Members will have knowledge of:

(a) Squadron or UAV unit mission and current commitments.

(b) Squadron or UAV unit aircraft or UAV characteristics and configurations.

(c) Current squadron or UAV unit operating area(s).

(d) Squadron or UAV unit SOP, policies, and directives.

(e) Pertinent policies of all echelons within and above the squadron or UAV unit.

(f) Squadron or UAV unit personnel, and dependent survivors.

(g) Squadron or UAV unit training, personnel, and aircraft records.

(h) Pre-mishap Plans and AMB task organization.

(i) AMB capabilities and limitations.

(j) Availability of technical assistance.

(k) Contingency arrangements with appropriate activities for:

1. Rescue

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2. Firefighting
3. Explosive ordnance disposal
4. Hazardous material removal
5. Logistic support
6. Photographic coverage
7. Medical support
8. Release of information
9. Wreckage location, security, recover, movement, preservation, reconstruction, disposal and release

(3) The system of squadron AMBs avoids delays in commencement of investigations, shifts in investigative responsibilities, and the travel and temporary additional duty costs which often result when mishaps are investigated by other than squadron AMBs. Additionally, it would often be wholly impractical for other than a squadron's AMB to investigate a naval aviation mishap occurring at a remote Marine deployment site or at sea.

b. Interagency Investigations. OPNAVINST 3750.16B points out that the National Transportation Safety Board (NTSB) and FAA can participate in naval aviation mishap investigations whenever mishaps involve civil aircraft or FAA functions, facilities or personnel. The NTSB has primary investigative responsibilities and authority when a mishap involves both naval and civil aircraft. Sometimes naval personnel may be asked to participate in NTSB investigations. These investigations are separate from the naval aviation mishap investigation. NTSB or FAA investigations are legal proceedings; testimony taken in them is not privileged. Contact COMNAVSAFECEN for guidance in dealing with aviation mishap investigations involving other U.S. Government agencies.

c. Special Weapons Investigations. Refer to OPNAVINST 3440.15A (NOTAL) if an aviation mishap involves nuclear weapon(s) or material.

d. JAG Manual Investigations. Naval aviation mishaps may also require a JAG manual investigation. Conduct these investigations independently from any safety investigation.

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(1) Do not assign members of AMBs, or other persons who have participated in a naval aviation mishap investigations conducted under the authority of this instruction, to a JAG Manual Investigation of the same mishap.

(2) Do not append Part B or extracts from Part B of SIRs to, or include them in, JAG Manual Investigation Reports, nor any other report. Do not list Navy JAG as an addressee on SIR messages. Statements made to AMB's are the property of the Naval Aviation Safety Program; do not release them for inclusion in the JAG Manual Investigation Report.

(3) To prevent any inference of association with disciplinary action, do not append the JAG Manual Investigation Report to, nor make it a part of, the SIR. Include no reference to any disciplinary action, Naval Aviator or Naval Flight Officer Evaluation Boards, Field Flight Performance Boards, or any other administrative action taken as a result of this mishap in the SIR.

e. North Atlantic Treaty Organization (NATO) Investigations. Plan to conduct a combined safety investigation pursuant to NATO Standardization Agreement (STANAG) 3531 (NOTAL), whenever an aviation mishap involves another NATO member nation. (See paragraph 610.)

f. Naval Safety Center Investigations and Support. In special cases, COMNAVSAFECEN may conduct an independent naval aviation mishap safety investigation under the authority of the CNO/CMC. These investigations do not relieve activities of their responsibilities for mishap investigation and reporting. Most often, however, NAVSAFECEN's involvement takes the form of help with the mishap board's investigation. In class A flight mishaps where wreckage is available or a fatality is involved, NAVSAFECEN will generally send an experienced aviation mishap investigator to assist the AMB. In cases involving wreckage at sea, an investigator will not normally be dispatched until the commencement of any ocean salvage desired by the controlling custodian of the mishap aircraft. Full cooperation and the unrestricted exchange of information and opinions is the order of the day between the NAVSAFECEN representative and the AMB. This may extend to division of labor, joint interview of witnesses, and joint deliberations. NAVSAFECEN investigators are direct representatives of the CNO; they control all evidence pertaining to the mishap (including parts undergoing engineering investigations) until they release it to the AMB. NAVSAFECEN

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investigator may invite additional experts, military or non-military, to assist in the investigation and provide analysis to the board. The AMB'S appointing authority shall provide administrative and logistic support to NAVSAFECEN investigators.

g. Intercomponent Investigations

(1) Only the Commander Naval Safety Center may enter into agreements or understandings about mishap reporting investigation with agencies outside DON.

(2) Occasionally, it may be worthwhile for one military service to ask another to provide a member for the AMB.

(3) There are three methods by which intercomponent participation in a naval AMB may be accomplished:

(a) Sister services may assign members as observers on a naval AMB.

(b) They may assign one of their members to a naval AMB as liaison.

(c) Or, any number of military services may form a joint AMB.

(4) In all these cases, we will investigate and report the mishap according to this instruction. Joint AMBs may report according to the other service's instructions as well.

(5) Conversely, we may send a member of a Naval Service to sit as an observer on another service's mishap board.

(6) Forward all request for inter-service participation on AMBs to COMNAVSAFECEN for approval.

(7) Paragraph 108 should answer any questions about accountability in interservice mishaps.

h. Naval Aviation Mishaps Involving Fire, Explosion, or Damage to a Ship or Shore Facility.

(1) Ships must use OPNAVINST 5100.19D to report a fire, explosion or other damage caused by a naval aviation mishap.

(2) Shore facilities must use OPNAVINST 11320.23F, Shore Activities Fire Protection and Emergency Services Program

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(NOTAL) to report fire damage resulting from a naval aviation mishap.

i. Criminal Activity. The senior member immediately notifies the appointing authority if the investigation uncovers evidence suggesting criminality. The appointing authority must consult with the Naval Safety Center before terminating the investigation and calling for the Naval Criminal Investigative Service (NCIS). The senior member must turn over all physical evidence, but shall not share privileged testimony with the NCIS.

604. MISHAP INVESTIGATION RESPONSIBILITIES

a. The senior reporting custodian of a naval aircraft involved in a naval aviation mishap is responsible for investigating and reporting the mishap.

b. An Aviation Mishap Board must investigate every naval FM, FRM, and AGM, then report on them as this instruction directs.

c. Occasionally, albeit rarely, circumstances surrounding naval aviation mishaps may meet the reporting criteria of more than one mishap reporting system. In those situations, reporting custodians shall send an initial Mishap Data Report describing the unusual circumstances in paragraph 7. The Commander, Naval Safety Center and the controlling custodian will consult to determine the most appropriate reporting system.

605. TRANSFER OF MISHAP INVESTIGATION RESPONSIBILITIES

As a matter of policy, reporting custodians shall not be relieved of their reporting responsibilities in a naval aviation mishap investigation, but it could happen. If such is the case, the reporting custodian still must provide whatever assistance the AMB investigating the mishap requires. This may include assigning personnel to temporary duty with the AMB, sending requests for Engineering Investigations (EIs), clerical assistance, and other support normally provided by a command to its own AMB.

a. Requests for Relief from Mishap Investigation and Reporting Responsibilities. When reporting custodians cannot fulfill their mishap investigation and reporting responsibilities, they should request relief from the controlling custodian in an MDR. (See Chapter 5.)

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b. Directed Relief from Mishap Investigation and Reporting Responsibilities. Seniors in the chain of command may decide to relieve subordinates of this responsibility. In such cases, the relieving seniors must appoint an AMB of their own to investigate and report the mishap. The relieving senior must also notify the reporting custodian of this action and his/her reasons for doing so. Include CNO, CMC, COMNAVSAFECEN, appropriate controlling custodian(s), and other interested commands as info addressees on the message.

c. Reporting Custodian is a Member of an Aircrew Involved in a Mishap. When an aircraft reporting custodian is a member of the aircrew involved in a mishap, the immediate superior in command (ISIC) takes the action required by subparagraph 605b, controlling custodians may waive this requirement.

d. Ferry Mishaps. When a mishap occurs while an aircraft is in a ferry status, the aircraft's reporting custodian is responsible for investigating and reporting the mishap.

e. Naval Aviation Depot. COMNAVAIRSYSCOM is responsible for investigating and reporting mishaps involving naval aircraft in the physical custody of Naval Aviation Depots. The Safety Centers of the services involved will decide who is responsible for investigating mishaps involving aircraft in the custody of another service's depot.

f. Commercial Contractor Mishaps

(1) Except for those mishaps which occur at commercial facilities operating under contracts written and administered by other commands, COMNAVAIRSYSCOM has the responsibility for investigating and reporting mishaps involving naval aircraft in the physical custody of commercial contractors. In those exceptional cases, the responsibility rests with the command exercising contract control over the facility.

(2) Contracts shall describe the contractor's responsibilities concerning investigating and reporting naval mishaps. COMNAVAIRSYSCOM may request that Defense Logistics Agency military personnel participate in AMBs investigating contractor mishaps.

g. Contractor Maintenance Involvement in a Mishap. Specific requirements concerning a maintenance contractor's obligations in a navy aircraft mishap investigation are found in the contract. On any contract in which the government assumes

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risk of loss for an aircraft, the applicable Defense Logistics Agency (DLAI) clauses and the NAVAIRINST 3710.1C require the contractor to cooperate with the mishap investigators, and provide a certain degree of support to them. The Contracting Officer, or his/her duly appointed Government Flight Representative (GFR) or Contract Officer Technical Representative (COTR), is responsible for interpreting these sections, and shall assist the AMB in obtaining the needed help from the contractor. Unique aspects of contractor maintenance involvement in mishap investigations are:

(1) Contractor witnesses are usually unavailable outside normal working hours, they may be accompanied by counsel, and their cooperation may be restrained. Conduct a thorough briefing on privileged testimony with these witnesses before the interview.

(2) Contractors work 8 hours a day. Wreckage recovery routinely involves 12-hour workdays. The military maintenance representative can get overtime authorization.

(3) Use squadron, wing or base resources, if needed, to reinforce your manpower. Look to indoctrination classes, restricted personnel, and transient personnel barracks as a source of help.

(4) While a contractor's maintenance records may not be in correct OPNAV 4790 series format or filled out on familiar forms, all their records, books and information, if not already sequestered by the military maintenance representative or squadron safety officer, must be made available upon request.

h. Multiple Aircraft Mishaps. The senior reporting custodian is responsible for conducting the investigation and writing the report on multi-aircraft, multi-party mishaps. Seniority is the key here, not the presumption of blame. The final endorser assigns responsibility for the mishap for record purposes. Examples of multiple aviation mishaps are:

(1) Collisions between aircraft or UAV's,

(2) Parts separating from one aircraft damaging another,

(3) Prop, jet, or rotor blast from one aircraft damaging another,

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(4) In-flight refueling mishaps, and

(5) Formation flights where aircraft are damaged.

i. Interservice Aviation Mishaps. Sometimes aircraft or people or facilities from one military service are involved in mishaps with another. In such cases, COMNAVSAFECEN shall identify the command responsible for the mishap investigation.

j. Unclear Cases. COMNAVSAFECEN will resolve any ambiguities concerning who is responsible for investigating and reporting a naval aviation mishap.

606. PRIVILEGED INFORMATION IN MISHAP INVESTIGATIONS

A thorough understanding of the following information on the concept of privilege is essential for the proper investigation of naval aviation mishaps.

a. Limited Use. Part B of the SIR contains privileged information and shall be used ONLY for safety purposes. Part B shall not be used for any other purposes which include, but are not limited to, the following (prohibited) uses:

(1) To make any determination affecting the interest of an individual making a statement under an assurance of confidentiality, or involved in a mishap,

(2) As evidence or to get evidence in determining the misconduct or line of duty status of killed or injured personnel,

(3) As evidence to determine whom to discipline,

(4) As evidence to assert affirmative claims on behalf of the Government,

(5) As evidence to determine the liability of the Government for property damage caused by a mishap,

(6) As evidence before administrative bodies, such as Naval Aviator/Naval Flight Officer Evaluation Boards or Field Flight Performance Boards, or in any other punitive or administrative action taken by the DON,

(7) In any investigation or report other than aviation mishap investigations and aircraft SIRs required under the authority of this instruction, or

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(8) As evidence in any civilian or military court.

b. The Purpose of Offering Confidentiality. The above actions are taken to:

(1) Overcome any reluctance of an individual to reveal complete and candid information about the circumstances surrounding a mishap.

(2) Encourage AMBs and endorsers of aviation SIRs to provide complete, open and forthright information, opinions and recommendations regarding a mishap.

c. Rationale. If information, given in confidence, were used for purposes other than safety, vital safety information might be withheld.

(1) Individuals may be reluctant to reveal information pertinent to a mishap if they believe the information could be embarrassing or detrimental to themselves, their fellow service members, their command, or their employer. They may also choose to exercise their constitutional rights and avoid self-incrimination by withholding information. Members of the armed forces must believe they can be truthful with the AMB for the mutual benefit of fellow service members without incurring personal jeopardy in the process. Witnesses shall not provide statements to the AMB under oath. Requiring them to do so is prohibited. Promises of confidentiality are given to witnesses and members of the AMB. This should not be confused with anonymity. Therefore, witness statements and the deliberative analyses of findings, conclusions, and recommendations of the AMB are privileged. Any information which would not have been discovered but for information provided under a promise of confidentiality is privileged. Promises of confidentiality may be given by members of the AMB. Each witness will be considered individually as to whether a promise of confidentiality is necessary for that witness's full cooperation. The granting of confidentiality must explicitly be given to each witness so selected and the records maintained with other mishap documents. Navy culture and tradition have given the Naval Aviation Safety Program and the ASO access to information that would not be available under other circumstances. The intent of the restriction on granting blanket promises of confidentiality is to strengthen those promises that are given. When granted, witnesses shall be advised in writing of the purpose for which their statements are being provided, of the limited use to be

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made of their statements, and of the non-releasability of the information they provide. The statements made by witnesses who have not been given a promise of confidentiality are protected in the same manner with the exception that they may be released in response to Department of Labor regulations or Freedom Of Information Act requests. The written advice to be given witnesses is at the end of this chapter in appendix 6A for those given a promise of confidentiality, and in appendix 6B for those not given a promise of confidentiality. Witnesses shall not be limited in their statements to matters to which they could testify in court, but may be invited to express opinions and speculate on possible causal factors of the mishap.

(2) If AMBs and SIR endorsers believed that their deliberations, opinions and recommendations could be used for other than safety purposes, they might be reluctant to develop, or include in their report and endorsements, vital safety information. In one respect, this rationale for designating mishap investigation information as privileged is more important than the rationale for encouraging witnesses. Every SIR involves AMB members and endorsers. Not every mishap has witnesses who would require an assurance of privilege as encouragement to make a statement.

d. Protection of Privileged Information. To continue the revelation, development, and submission of privileged information in aircraft SIRs and endorsements, we must keep faith with the assurances of the limited use to be made of this information. Should privileged information be used for any purpose other than safety, credibility of future assurances would be lost. A continuous sequence must be maintained: assurances of limited use given; information obtained, developed and reported; privileged information protected against misuse; credibility of assurances thereby maintained; assurances of limited use given again. If any portion of the sequence fails, vital safety information may be lost. Obtaining safety information is therefore dependent upon the protection of privileged information against use for other than safety purposes. Accordingly, the following safeguards are established for the protection of privileged information:

(1) Witness Statements. Do not give statements provided to the AMBs to any activity, except as this instruction allows. The AMB's appointing authority must retain copies of all statements used in the SIR until the final endorsement is complete, then destroy them.

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(2) Investigations. We must understand the distinctions between aviation mishap investigations and other investigations. In all cases, aviation mishap investigations shall be independent and separate from all other investigations except that all investigators may exchange the identification of witnesses and examine nonprivileged evidence. In recognition of the importance of hazard identification and correction to naval aviation, the mishap safety investigation is the primary investigation and takes priority over all other investigations in interviewing witnesses, getting and analyzing evidence, and inspecting the mishap scene.

(a) Only when other services participate in authorized NAVSAFECEN aviation safety investigations may any exchange of information and opinion outside the AMB occur. Cooperation between these investigative boards may include division of labor, joint review of evidence, exchange of witness statements, and joint deliberations.

(b) Requests for help from other activities are not privileged and must be meticulously reviewed to be sure they do not contain privileged information. Technical specialists assisting the AMB are not members of the board. Do not give them access to AMB deliberations, nor access (except as authorized elsewhere in this instruction) to the content of SIRs.

(3) Investigators. Members of AMBs shall not divulge their opinion or any other information to which they became privy in their capacity as a member of an AMB. Do not ask them to do so. Do not assign AMB members to any JAG Manual Investigations, Naval Aviation/Naval Flight Officer Evaluation Boards, Field Flight Performance Boards or any other investigation convened as a result of the same mishap. Members of AMBs shall not keep a copy of any part of an SIR after completion of the investigation.

(4) Data Recorders. Electronic recording devices are used extensively in aviation today. They include: radar air traffic control center raw RADAR plots and associated audio tracks, control tower radio communications tapes, HUD tapes, PLAT tapes, FLIR and radar video tape recorder (VTR) tapes, and data from mission computers and flight data recorders. All such data in this raw, undisturbed state is real evidence. However, once this data is enhanced or manipulated or animated for analysis, once it is correlated and interlaced with other data,

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or interpreted in any way, the products of these efforts at interpretation are privileged.

607. AVIATION MISHAP BOARD INVESTIGATION OF MISHAPS

The following is a general description of AMB investigations of naval aviation mishaps:

a. Responsibilities. Mishap investigation and reporting responsibilities of AMB members take precedence over all other duties. Chapter 1 describes the responsibilities connected with a mishap investigation:

(1) Aircraft or UAV reporting custodians, paragraph 107k.

(2) Senior member, AMBs, paragraph 107m.

(3) Members, AMBs, paragraph 107n.

b. Organization for Investigation

(1) The Standing AMB. The program requires reporting custodians appoint in writing and maintain a standing AMB. Paragraph 206b requires a minimum of four members with experience and knowledge in the specialized fields of safety, aeromedical, operations, and maintenance. The AMB's senior members must be sure their boards are trained and ready to investigate mishaps.

(2) Changes in Board Membership. When changes in Board membership are necessary, it is the senior member's responsibility to recommend to the appointing authority appropriate changes of AMB membership to comply with this instruction. The senior member may also recommend additional members be seated if the investigative effort requires. For example, in a mishap involving Aviation Life Support Systems, the senior member may recommend the assignment of a local AMSO to the Board.

(3) Use of Board Members. The senior member may excuse any member from active participation in the investigation if that individual's particular skills are no longer needed. The individual retains board membership until removed by the appointing authority.

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c. Conduct of the Investigation. NAVAIR 00-80T-116, Vols. I-II, Technical Manual, Safety Investigation Techniques; and Aviation Safety Programs, Aircraft Mishap Investigation Notebook tells how to conduct a naval aviation mishap investigation.

(1) The Investigative Effort. The amount of investigative energy expended in discovering the causes of mishaps has nothing to do with the amount of damage they cause. There is no correlation between the severity of a mishap and the potential for damage or injury inherent in the hazards detected during investigation of that mishap. Accidents which cause little or no damage may expose a hazard with the potential to cause frequent and severe mishaps. On the other hand, a catastrophic mishap may reveal a hazard which would rarely cause future problems. Do not, therefore, tailor your investigative effort to the severity of the mishap. Your job is to identify the hazards associated with the mishap. A complex or mysterious mishap may require extensive investigative efforts; a simple, well-defined mishap might be investigated with minimal effort. The extent of the investigative effort depends on the senior member's desire.

(2) Collection of Evidence. It is impossible to accurately predict what kinds of evidence should be collected under what circumstances in every mishap investigation. For this reason, we rely on the AMB senior member's judgment. Note that no one other than a NAVSAFECEN investigator may investigate a naval aviation mishap under the authority of this instruction, except when acting as an AMB member, under the supervision of the AMB's senior member. This supervision begins before the mishap, during pre-mishap planning and AMB training. This training is the responsibility of the unit standing AMB's senior member.

(3) Medical Evidence. Because medical evidence is quickly lost, we must immediately notify the AMB flight surgeon when a mishap occurs. The flight surgeon is primarily concerned with medical, physiological, social, behavioral and psychological factors which may reveal mishap causal factors. He/she must coordinate his/her collection and analysis of medical and human factors evidence with all other aspects of the investigation. When investigating a mishap, the flight surgeon participates fully in the AMBs investigation and deliberations which helps insure the contents the Aeromedical Analysis (AA) and the SIR are coordinated and complimentary.

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(a) Pre-Mishap Planning. The flight surgeon shall participate fully in AMB pre-mishap planning, including planning for the collection of medical evidence. (See appendix 2B, Pre-Mishap Plan Checklist.)

(b) Physical Examinations. Regardless of his/her military service affiliation, the first flight surgeon on a mishap scene, or the one to whom mishap victims are brought, shall immediately perform examinations and laboratory procedures required by the flight surgeon's service. However, the parent service of the victims must delineate unique requirements and assume responsibility for the aeromedical portion of this investigation as soon as possible. Flight surgeons may record and report their examinations using their own service's reporting forms and procedures. Examinations should be as complete as the examinee's condition and other circumstances permit, with special emphasis on those areas which may be pertinent to mishap causal factors. They must examine all crewmembers, and if indicated, passengers, and anyone else who may have been a causal factor of the mishap.

(c) Radiographs. They shall perform Radiology studies as clinically indicated. Full spinal x-rays are required after all ejections, bailouts, and crashes with or without suspected back injuries.

(d) Biological Samples. In all Class A and Class B mishaps and when necessary following Class C mishaps and incidents with potential to meet defined naval mishap limits, biological sampling shall take place immediately after the mishap. The importance of this knowledge is unrelated to the severity of the mishap. Include biological sampling policies which conform to current Navy and DOD directives in every Pre-Mishap Plan. Take enough blood and urine specimens for blood alcohol, carbon monoxide, drug screen, hemocrit, hemoglobin, glucose and urinalysis testing. Freeze and store an aliquot of each specimen for at least 90 days following the mishap for verification or for other studies as may be necessary later. Promptly submit all toxicological (drug screen, alcohol, carbon monoxide, etc.) specimens to the Armed Forces Institute of Pathology (AFIP) for analysis. All other biological specimens may be analyzed by qualified biological laboratories, at the discretion of the AMB. Conduct any other clinically indicated laboratory studies at the flight surgeon's discretion.

1. The results of toxicology tests on biological samples are factual data releasable to other

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investigators and are available under FOIA. Results for each individual tested will be recorded on a separate Appendix N Form SIR 3750/3 and submitted as an attachment on side A of the SIR.

2. Per SECNAVINST 5300.28C enclosure (2) paragraph 3a(4) and paragraph 4 this testing is considered command-directed and results can be used for administrative purposes but not for disciplinary purposes.

3. Chain of custody for biological samples sent to the AFIP shall be maintained and recorded on AFIP Form 1323 (current version)."

(e) Pathological Studies. Conduct an autopsy, including full body x-rays, whenever a fatality occurs as a result of a naval aviation mishap. The prerogatives of command (Article 0720, chapter VII, Navy Regulations 1973), BUMEDINST 6510.2F (NOTAL) and Article 17-2, Manual of the Medical Department (NOTAL) constitute the authority to perform autopsies on military aviation mishap fatalities when the mishap occurs at sea or on a military base where the Federal Government has legal jurisdiction. Furthermore, an Armed Forces medical examiner has the authority to order a medicolegal investigation, including an autopsy of the aviation mishap related deaths of service members, where the Federal Government has exclusive jurisdictional authority. We must obtain a waiver or a release from the local coroner or medical examiner, however, whenever a military aviation accident occurs outside Federal jurisdiction, on state or private property. Include these waiver provisions in the command's Pre-Mishap Plan. After the autopsy, the prompt release of the remains for preparation, encasement and shipment is important. See the Manual of the Medical Department, NAVMEDCOMINST 5360.1, and BUMEDINST 6510.2F (NOTAL) for details.

(f) Drug-Assisted Interviews and Hypnotic Techniques. Drug-assisted interviews and hypnosis are prohibited without the specific, written authority of CNO (N78). These interviews and techniques will be authorized only when critical safety-related information cannot be obtained any other way and the subject agrees voluntarily. When authorized, the procedure shall be conducted by a member of the medical department qualified in the procedure, with the AMB flight surgeon in attendance. Other attendees are discouraged. (The value of these efforts is suspect and the probability of getting false, inaccurate, and misleading information from them must be considered.)

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d. Deliberations. As the AMB collects evidence it must begin to attach significance to that evidence and decide what part it may have played in the mishap. The SIR format provides a guide for the deliberations of the Board. The SIR outline reflects a pattern of deductive reasoning:

- What the Board knows (paragraph 10, Evidence).
- Reasoning of the Board (paragraph 11, Analysis).
- Deductions of the Board (paragraph 12, Conclusions).
 - The Board's recommendations to prevent recurrence of the mishap, or damage and injury occurring during the mishap (paragraph 13, Recommendations).

(1) Analysis and Causal Factors. The AMB must analyze the evidence available to them in order to determine the causes of the mishap. The first thing the AMB must do is discuss everything that could possibly have led to the mishap, then reject those things too remote to consider, and systematically investigate those possibilities that remain. Eventually, the AMB must phrase each possibility in language designed to aid formal classification and explain which, based on the evidence, they have accepted and which they have rejected. The resulting list constitutes the causal factors of the mishap. Causal factors have three elements which (1) describe the people or the equipment, and (2) define the actions or the events, and (3) tell why this causal factor contributed to the mishap. Defining these elements is essential for determining the cause of the mishap. Each causal factor is a potential starting point for remedial action. Experience has shown that human factors play a role in most mishaps, while a significant number of others involve material failure. Thus, causal factors fall into two general classifications: human and material.

(a) Human Factors. Determining how people contribute to mishaps is of obvious importance. To describe fully and to understand human factors requires us to identify the elements: WHO, WHAT, and WHY in each occurrence. It is not enough to describe the human portion of mishaps as "personnel error," or "pilot technique". Such labels are not nearly detailed enough to encompass the entire cause of a human factor mishap; they fail to explain why the event happened. Normally, there are few questions about WHAT occurred; usually it is self-evident: A gear-up landing is just that. Likewise, the WHO lends itself to quick identification: the pilot. Still, the most significant element, from the standpoint of prevention, is missing: the WHY. This is the element that lends itself to remedial action. Flight surgeons are trained and thus must

always have a role in the identification and analysis of human factors. Further, to be sure the AMB properly assesses human factors, and to give the endorsing chain the benefit of information available in the past only in the flight surgeon's report, we must analyze all aeromedical conditions found at the time of the mishap. Whenever there are human factors or injuries, they are to be reported in paragraph 11 of the SIR. Include supporting evidence in paragraph 10 and indicate if the factor was accepted or rejected. Use appendix L to help determine WHO/WHAT/WHY. It is an exhaustive tabulation of the ways people and aviation machinery conspire to produce mishaps. It is an aid to the AMB designed to spur the analysis process to consider all the elements listed in it. The AMB must match the human factor causes to a WHO/WHAT/WHY combination in appendix L. They should review the General Guidelines about detailed causal factors in this appendix before writing their analysis and conclusions. For each causal factor, there can only be one WHO/WHAT combination. If there is another WHO or WHAT, there must be another causal factor which must be stated in its entirety. For each WHO/WHAT combination there may be many WHYS. The AMB must list all WHYS applicable to the mishap.

1. WHO. There are four kinds of people who can contribute to an aviation mishap. They are: aircrew, supervisors, facilities and maintenance personnel. We classify them according to the job or function they perform. Thus the classifications of: aircrew factor, supervisory factor, facilities personnel factor, and maintenance factor.

a. Aircrew. The people (including instructors) in the aircraft, in the formation, or controlling the UAV, are listed under the aircrew factor classification. We must identify their contributions to the mishap - whether or not they survived.

b. Supervisory. People in command and operations-related support - up and down the chain of command - fall into the supervisory factor classification. Consider the behavior of supervisors at every level, their publications, and their policies, all of which may contribute to a mishap. Look closely at supervision in the squadron. Scrutinize operations and the training of personnel closely. Look at the supervision of multiple aircraft by the section, division, or flight leads. Problems with maintenance supervision are not part of this classification.

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c. Facilities Personnel. Classify errors committed by people involved in air traffic control (tower, priority, CATCC, etc.), runway watches, aircraft or UAV ground handling, crash and rescue, and search and rescue under Facilities Factors.

d. Maintenance. Errors committed by people engaged in the production, servicing, or repairing of aircraft are listed under the maintenance factor classification. Consider carelessness, inattention, and negligence on their part as well. List ground handling problems, even those performed by personnel assigned to a unit's maintenance department, under facilities factors. Problems with maintenance supervision, training (including qualification and licensing), and administration, directly related to aircraft production, service, or repair, are maintenance, not supervisory, factors.

2. WHAT. The actions of those who caused the mishap are the "WHAT" of a human causal factor. The WHAT is a hazard statement defining an act of omission or commission which led to the mishap. Appendix L is matrix of actions performed, or not performed, by the four classifications.

3. WHY. One assumes no naval aviation professional would purposefully commit an act that would result in a mishap. Circumstances like fatigue, lack of training, misinformation, and motivational dysfunction may combine to create a situation that leads to a mishap, but even negligence lacks the specific intent to cause damage or injury. These are all "WHY" something occurred and do not describe "WHAT" happened. Unfortunately, these elements of mishap analysis were once left undocumented and unevaluated. Today we know we can eliminate these WHY elements of mishap causal through sound leadership and good management. The AMB, by using appendix L terminology, can evaluate the WHY more fully and include these elements in the SIR for further documentation and evaluation. In appendix L, the WHY elements of human factors apply to any WHO/WHAT combination. They are subdivided into six groups:

- Communication/Coordination
- Psychosocial
- Environment
- Performance
- Human Engineering
- Medical/Psychological

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(b) Material Factors. Even in material failures, there may be enough evidence for the AMB to identify human factors; someone misused something, or did not maintain or service it, or designed it improperly, or made or reworked it below standards. Even so, including material factors in the set of mishap causal factors is important because, while human factors are surely involved, the material factor is often the weak link in the chain. It may be possible, for example, to redesign and strengthen a part. On the other hand, there may be no evidence supporting human factor involvement and a material failure may be the only possibility. Thus, we include material factors in this set of mishap causal factors. The AMB should identify as Factors all material failures that significantly affect the events leading to the mishap. There is a set of ELEMENTS similar to WHO/WHAT/WHY for material factors: COMPONENT MODE, and AGENT, but there is no matrix comparable to appendix L for material factors. The AMB should describe the material factor elements using standard nomenclature, in plain language as explained below. Use applicable technical reports, such as EIs or outside laboratory reports, as a guide.

1. Component. The smallest, most specific part, assembly, or system identified as having failed is the component.

2. Mode. How the component failed. Specifically, "WHAT" occurred, is the Mode. Typical examples are: fracture (load bearing member broke), stripped threads, jammed, leaked, etc.

3. Agent. The acts or events which led to the failure mode are the agents. Typical examples are overload, fatigue, fire, or spalling. These are the "technical" agents; each component failure must have, at least, one "technical" agent. In addition, the AMB may discover further "human factor" agents. These might include improper maintenance procedures, poor design or improper aircrew procedures. We will address "human factor" agents as separate causal factors (Aircrew, Supervisory, Maintenance and Facilities), and will analyze the WHO/WHAT/WHY more fully.

(2) Conclusions. AMBs must base their conclusions as to which hazards caused the mishap, damage, or injury during the mishap, on all available information and their own deductions. They may test the conclusions under consideration with the question: "Absent this causal factor would there have been a mishap?" You may use the terms "Hazard," "mishap cause and

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causal factor," and "causal factor of damage or injury," interchangeably.

(a) Mishap Causal Factor Determination. The SIR is the report of the mishap causal factors determined by the AMB. Most mishaps result from two or more causal factors which combine to produce a mishap. Without one of them, there would be no mishap. There is, therefore, no logic in labeling causal factors as "direct, "primary, "principal," or the like. Irrefutable proof is not always available, nor is it required, to determine the cause of a mishap. Determining causal factors is a difficult task requiring deductive and inductive reasoning in the analysis of the evidence. The AMB must, in their best judgment, decide on the most likely reasons for the mishap and express their level of confidence in their conclusion. There are five ways to classify their conclusions about the mishap. A specific Determination Statement at the beginning of the conclusion paragraph identifies the classification.

1. Determined. This classification indicates the AMB has specific evidence pointing to a definitive, verifiable series of events and that other alternatives did not occur. For example: Following an aircraft crash, the AMB finds an engine bearing badly scored - indicating catastrophic failure. Coincidentally, investigators find the maintenance publication describing the procedure for installing this bearing is wrong; following it could lead to premature bearing failure. The aircrew states that, just before the engine failed, the oil pressure abruptly dropped to zero. All other parameters were normal. No thumps (thus, no bird strike), fuel quantity and flow were normal (they had gas and it was good), no evidence of FOD, and everything else was within specifications. The logical conclusion is that an improper maintenance procedure resulted in the bearing failure. There are no other plausible explanations. Thus, the causal factors for this mishap are determined. In this example the AMB not only resolved the major type of failure - engine failure - but also determined the cause - bearing failure due to improper installation caused by an inadequate technical publication. So, the AMB would conclude the causal factors for this mishap are "determined to be: Maintenance Factor. Improper installation procedures resulted in failure of engine bearing." Likewise, it is appropriate to include a material factor for the failed bearing. However, had the AMB not been able to identify the reason for the engine failure, this mishap should still be classified as "determined" as "material factor - engine failure of undetermined origin. The Determination Statement, "THE CAUSAL FACTORS OF THIS MISHAP ARE

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. . ." identifies this classification. The cause of the mishap is fixed "determined."

2. Determined - No Fault Assigned. Whenever they encounter that rare mishap with no human factors to consider; when aircraft damage or personnel injury results from collisions with birds or animals or hail or lightning strikes and, when a qualified pilot was flying an authorized mission and the crew took all possible precautions, AMBs may choose this determination. "No fault" assigned does not mean the mishap was inevitable. It simply recognizes that naval aviation is a risky business and that sometimes, in spite of our best efforts, mishaps occur. AMBs must include, as material factors, the damage or the material failures that result from the bird strike, lightning strike, etc. COMNAVSAFECEN will carefully screen every proposed no fault determination. AMBs must fully explain their rationale in the analysis paragraph of the mishap report. The Determination Statement reads like this: "THE CAUSAL FACTOR OF THIS MISHAP IS: NO FAULT ASSIGNED, THE FOLLOWING MATERIAL FACTORS ARE ASSIGNED:" The cause of the mishap is fixed "determined."

3. Determined - Most Probable. Use this classification when the evidence is insufficient to fully support a particular theory, but all competing analyses clearly were without merit. If, for example, after examining the wreckage and all other available evidence, the ABM finds no material discrepancies or failures but concludes there are verifiable aircrew issues, they would then conclude that aircrew factor is "the most probable cause." The Determination Statement would read like this: "THE MOST PROBABLE CAUSAL FACTOR OF THIS MISHAP IS . . ." identifies this classification. The cause of the mishap is fixed "determined."

4. Undetermined - Possible. AMBs should use this classification when they have competing theories as to what happened but cannot confidently rule out any of them. If, for example, there is evidence of multiple mechanical malfunctions or a suspicion that a mechanical failure and a human factor might have combined to cause the mishap, the mishap determination would read: "POSSIBLE." In this case, the ABM could not, with any degree of certainty, determine what caused the mishap. They had to report "undetermined" with "possible" causal factors. The Determination Statement would read: "THE CAUSAL FACTORS OF THIS MISHAP ARE UNDETERMINED WITH THE FOLLOWING POSSIBLE CAUSAL FACTORS . . ." The cause of the mishap is not fixed "undetermined." Take care not to over-

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analyze causal factors in cases like this. For instance, if you know a specific mechanical malfunction caused an engine failure, and that malfunction caused the mishap, but you're not sure how or why the malfunction started, then the mishap would be "DETERMINED" even though there may be competing theories as to how or why the malfunction originated.

5. Undetermined. Used only when there is no evidence of what caused the mishap. The Determination Statement would read: "THE CAUSAL FACTORS OF THIS MISHAP ARE UNDETERMINED." No causal factors can be assigned, and the cause of the mishap is not fixed.

(b) Causal Factors of Other Damage and Injury Occurring during a Mishap. The same logic applies here as to mishap causal factors. What causes damage during a mishap is any hazard which causes unnecessary or avoidable damage, just as what causes injury during a mishap is any hazard which causes unnecessary or avoidable injury. This paragraph provides AMBs with the opportunity to report on any additional factors discovered during the mishap investigation that, while not causing the mishap, increased its severity by producing additional damage or injury. Things commonly associated with causing additional damage or injury during a mishap include: poorly designed fuel systems, inadequate survival training, faulty life support and survival equipment, etc.

(c) Environmental Conditions. Environmental conditions are not causal factors. Mankind has no control over the environment. The time of day, the weather, the sea state, tidal waves, hurricanes, and tornadoes do not cause mishaps; inadequate weather forecasts and flying into thunderstorms do. Since causal factors, by definition, are under human control and subject to elimination, the environment - something entirely outside our control - cannot be a causal factor.

(d) Noncontributory Hazards Discovered During the Investigation. AMBs must not include hazards discovered during the investigation that were not causal factors in the mishap. To do so clouds the issues surrounding accident. Instead, report them in a Hazard Report. (See chapter 4.)

(3) Recommendations. AMBs should use the guidelines in appendix C when formulating their recommendations, and test these recommendations with the question: "If this had been done before the mishap, would these additional hazards have been

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eliminated?" Don't include any recommendations that fail this test; rather, report them in a Hazard Report. (See chapter 4.)

608. TECHNICAL AND MEDICAL ASSISTANCE TO AMBS

Investigative assistance and technical and medical assistance are not the same thing. Investigative assistance was defined in paragraph 603f. Technical and medical assistance is described below.

a. Sources of Technical and Medical Assistance. Help with medical problems can be found at: local naval medical facilities, Bureau of Preventive Medicine Units, AMSO personnel, Armed Forces Institute of Pathology (AFIP), National Institute of Health, Aviation Physiology and Water Survival Training Units. Technical assistance is available from: Naval Aviation Depots, COMNAVAIRSYSCOM, Maintenance Engineering Cognizant Field Activities (CFAs), Naval Laboratories and Development Centers, aircraft and component manufacturers, Naval Air Technical Data and Engineering Service Command Detachments, and technical representatives. COMNAVSAFECEN mishap investigators can discuss questions about technical assistance with you. See appendix D for NAVSAFECEN telephone numbers.

b. Request for Technical and Medical Assistance. An AMB's requests for assistance are not privileged and must be carefully reviewed to be sure they contain no privileged information. To get help from distant activities and from agencies senior or external to commands of the controlling custodians, send your message request to the controlling custodian. Requests for aid from local activities should be part of pre-mishap planning.

c. Advisory Nature of Technical and Medical Assistance. Medical or technical specialists advising the board are not members of the board, and they have no access to privileged communications, or the deliberations of the board, or Part B of the SIR. They are advisors; their advice is just that - advice - and nothing more. The board may accept or reject their conclusions as they see fit. Give them only that information deemed absolutely necessary. Take care when granting those rare exceptions to this rule (such as using a local flight surgeon in lieu of the one assigned to the board) to be sure these people are thoroughly briefed about their responsibilities to safeguard privileged communications.

d. General Aeromedical Support to the AMB. Naval medical facilities must train their staff members in the general medical

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and administrative requirements of this instruction, prepare and keep current a pre-mishap plan, and have ready both personnel and material to support the Naval Aviation Safety Program. They must train flight surgeons and prepare them fully for assignment to an AMB. When requested, medical facilities shall provide a flight surgeon for appointment as an AMB member. If local medical facilities cannot provide, the controlling custodian will. AMB duties take precedence over all others. Any request for medical help from an AMB must be treated as a priority and handled with dispatch.

e. Armed Forces Institute of Pathology Assistance (AFIP). Forensic pathologists are a valuable addition to a mishap investigation. Due to the urgency of such requests, the NAVSAFECEN will request AFIP participation in investigations of most fatal aircraft mishaps without prior request from AMB. In these cases, the NAVSAFECEN shall promptly inform all interested commands of actions taken. When responding to a request for assistance in investigating a naval aircraft mishap, the AFIP representative is a direct representative of the CNO and controls medical evidence until the investigation is complete. AFIP team will perform autopsies, visit the mishap site and inspect the wreckage in an effort to correlate injury patterns with aircraft damage. They are authorized to record aircraft and medical evidence in the course of their investigation by any means available. Prior to departure from the area, the team will debrief the AMB.

f. Engineering Investigations (EIs). When AMBs need help with maintenance engineering technical assistance, they should ask the mishap aircraft's reporting custodian to send an EI request to the maintenance engineering CFA. (See OPNAVINST 4790.2H.) Include a description of the physical circumstances of the mishap, photographs of the part as found in the wreckage, and if practical, a statement of the possible cause of the part's failure (not the cause of the mishap) when you ship the material. Do not tamper with, adjust, remove parts from, or clean the material forwarded. EI's are an important source of factual information for not only the SIR but other reports as well. Do not include privileged information or statements about causal factors of mishaps. That would violate their nonprivileged status and threaten the Naval Aviation Mishap Investigation system.

g. EI's of Aviation Life Support Systems (ALSS). AMBs must conduct EIs on ALSS used in a mishap or recovered in an investigation. Unfortunately, unlike other parts and equipment

in our profession, there is no single activity responsible for all ALSS subsystems. Look at appendix G, which lists ALSS subsystems along with the responsible CFA. Technical assistance for ALSS investigations also is available at the crash site from those CFAs listed in appendix G. A known or suspected ALSS malfunction, must be reported under OPNAVINST 4790.2H. AMBs must request an ALSS EI through the reporting custodian as follows:

(1) Mishaps Involving Ejection Seat Equipped Aircraft

(a) We must examine ejection malfunctions as a total system. Ship the ejection seats, all escape system and ALSS parts, and all aircrew personal protective and survival equipment to the aircraft CFA. (See appendix E.) Mark the container: "For engineering investigation. This equipment has been used in an emergency situation." Provide a written summary of the circumstances surrounding the use of the ALSS items. In cases of multiple crewmembers, label each person's ALSS to be sure the equipment is not mixed. The CFA shall request assistance from the subsystem CFAs (appendix G) in examining interaction between ejection seat and other ALSS items. While the aircraft CFAs conduct their EIs, the subsystem CFAs shall conduct EIs on the subsystems. Send the results of all EI investigations to: NAVSAFECEN, COMNAVAIRSYSCOM (AIR-4.6), reporting custodian, the aircraft CFA, and other interested CFAs. The Program Manager for Aircrew Systems (PMA-202) has chartered and funded PMA-202J to set up the MIST (Aircrew Systems Mishap Investigation Support Team) to provide on-site technical engineering assistance and analysis to the AMB for all Aircrew Systems products (see Appendix G) on a request basis. The AMB should request on-site MIST assistance from the NAVSAFECEN on-site investigator. The MIST will debrief the AMB on its preliminary findings prior to departing the area and will forward a written report within 7 days of completing any EI's.

(b) A malfunctioning parachute assembly or a parachute deployment system requires an on-site examination of the complete parachute system and related deployment components by the NAVAIRWARCENWPNDIV, China Lake, CA. Send the results of this examination to the NAVSAFECEN and other appropriate subsystem CFAs.

(c) If seat/man separation occurs during an ejection sequence with no reported problems, ship the recovered ALSS equipment to the appropriate CFA listed in appendix G. Do not send an EI report unless the AMB requests it.

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(2) Helmets

(a) Request an EI on all recovered aircrew helmets whenever there is:

1. Damage to the helmet,
2. A visor fails,
3. The Oxygen mask separates from the helmet
(remember to send all the recovered oxygen mask components)
4. The helmet lost on ejection but recovered,
5. Neck injuries including sprains, fractures, abrasions, contusions, or lacerations that may have been caused by the helmet,
6. Facial injuries,
7. Skull fractures,
8. Unconsciousness, or
9. Fatal injuries.

Ship helmets accompanied by a complete identification of the mishap and the failure to: the Naval Air Warfare Center Aircraft Division (Code 4.6.2.1) 47123 Buse Rd., Unit IPT, Patuxent River, MD 20670-1547. In cases of ejection seat-equipped aircraft mishaps, send the equipment only after the total system ALSS investigation is complete.

(b) In all cases in subparagraph 608h(2)(a), the CFA must conduct an EI on all submitted items and send the results via naval message to COMNAVSAFECEN, COMNAVAIRSYSCOM (AIR-4.6) and the reporting custodian.

h. EI's of Night Vision Devices (NVD). If you suspect an NVD failure, ship the entire system - battery, power pack, helmet mounting devices and counter-balance weights - everything, to the Naval Surface Warfare Center, 300 Highway 361, building 65NE Code 805C, Crane, IN 47522-5001. Mark the container: "Night Vision Devices. For Engineering Investigation. Handle With Care." Complete SIR Form 3750/12 and attach a copy to the equipment. Segregate and label separately

equipment from each crewmember. The CFA must conduct an EI on all submitted items and send the results via naval message to: COMNAVSAFECEN, COMNAVAIRSYSCOM (AIR-4.5 and AIR-4.6) and the reporting custodian.

609. WRECKAGE

a. Preservation and Release of Wreckage

(1) Do not move or disturb aircraft wreckage for at least 24 hours, except to protect life, limb, or property, to ease military or civil activities, or to protect the wreckage from loss or further damage. This allows those commands concerned time to decide about their interests in conducting an independent investigation. Before wreckage can be moved (for any reason) the officer ordering such removal must first map and photograph the wreckage and the wreckage distribution pattern. Record any damage inflicted on the wreckage during salvage.

(2) Salvage submerged wreckage as soon as possible and commence anticorrosion measures immediately thereafter. Record any damage inflicted on the wreckage during salvage. Although it is difficult, attempt to get an accurate diagram of the submerged wreckage. Make every effort to retrieve all items associated with the aircraft or its crewmembers.

(3) The COMNAVSAFECEN mishap investigator assigned owns and controls all wreckage and real evidence connected with the mishap until he/she releases it to the AMB's senior member. Absent an assigned investigator, responsibility for control and ownership of the wreckage and the real evidence falls to the AMB's senior member alone. The AMB senior member will not relinquish control of the wreckage and real evidence to the reporting custodian until all other investigative teams have completed their work. The reporting custodian will notify the controlling custodian (Info NAVY JAG, COMNAVSAFECEN, COMNAVAIRSYSCOM (AIR 5.0D), and all commands holding wreckage, parts or components that the wreckage is ready for final disposition. The controlling custodian and COMNAVAIRSYSCOM will include the above information addresses on all wreckage dispositions messages.

b. Obliterating and Marking Abandoned Wrecked Aircraft. To forestall any reinvestigation of mishaps, obliterate all wreckage left at the crash site. If this is can not be done, determine the precise geographic location of the mishap and photograph the site from as low an altitude as practical.

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Furnish all search and rescue agencies within the area with the information and photographs. The controlling custodian and NAVSAFECEN will include the above info addresses on all wreckage disposition messages.

c. Submerged Wreckage. When the wreckage is in deep water, ask the controlling custodian for help. The controlling custodian, in consultation with COMNAVSAFECEN, will decide if the salvage is worth the effort. If the answer is yes, the controlling custodian will send a naval message containing the following information to ask the Fleet CINC for help with the recovery:

- (1) Type of aircraft or UAV.
- (2) Exact location of wreckage.
- (3) Whether the wreckage is marked by a buoy or pinger. If marked with a pinger, include its frequency and the date and time it will start transmitting.
- (4) Type of ordnance on board the aircraft, if any.
- (5) Whether classified material is on board.
- (6) Names and phone numbers of points of contact.
- (7) Info the following:

CNO WASHINGTON DC//N78/N78F/N09F/N09FB/N31//
CMC WASHINGTON DC//A/SD// (as appropriate)
COMNAVSEASYS COM WASHINGTON DC//00C//
COMNAVAIRSYS COM PATUXENT RIVER MD
CINCLANTFLT NORFOLK VA (for Atlantic)
CINCPACFLT PEARL HARBOR HI (for Pacific)
CINCUSNAVEUR LONDON UK (For European and
Middle East area)
COMSIXTHFLT (For European and Middle East area)
COMSEVENTHFLT (for Far East)
COMNAVSURFLANT NORFOLK VA//N37/N32// (as
appropriate)
COMNAVSURFPAC SAN DIEGO CA (as appropriate)
COMNAVSAFECEN NORFOLK VA//10/13/37//

Water salvage takes a lot of planning, time and money. Expect to have a board member at sea with the recovery ship for the duration of the salvage effort, as well as the AMB's flight

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surgeon whenever the recovery effort may bring up human remains. The Fleet CINC has the option to salvage the wreckage. CNO (N31) will liaison with the Supervisor of Salvage, NAVSEA (OOC), for assignment to a civilian contractor, if the CINC cannot handle the tasking. Call NAVSAFECEN's, Aircraft Mishap Investigation Division, DSN 564-2929, commercial (757) 444-2929 for further information.

d. HELP WITH WRECKAGE RECOVERY. AMB's should request assistance from the nearest military base when recovering wreckage. Additionally, the Commander of the local Coast Guard District, Air Force Headquarters, or Army Area Headquarters, will know what heavy military equipment is available in the local area.

610. MISHAP INVESTIGATIONS IN FOREIGN COUNTRIES

a. General Procedure

(1) A good source of information about this subject is NATO Standardization Agreement 3531, as international agreements between the U.S. and foreign governments tend to follow these same general guidelines. Each will:

(a) Notify the other of aircraft or missile accidents or incidents between themselves.

(b) Provide operational or technical consultants to the investigating nation, which may use them either as observers or members of its investigating committee.

(2) Allow nations concerned to conduct disciplinary, litigation, claims, or administrative investigations under their own laws. These investigations remain separate from the Aircraft or Missile Accident Safety Investigation.

(3) When allied forces occupy airfields or launch sites in a host nation and mishaps - involving only those allied forces - occur within the boundaries of those sites, the allied forces, not those of the host nation are responsible for all measures taken. Respect all the laws and consult with civil authorities of the host nation whenever mishaps involve their civil aircraft.

(4) Cooperate with other nations in mishap investigations and, wherever possible, exchange relevant

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information which will neither compromise security nor conflict with practices regarding privilege.

(5) Communication with the Press. Host nations must respect the security restrictions of the operating nation and not issue statements to the press without the concurrence of the operating nation. Both nations should consult with one another before statements are made to the press.

b. Actions, Reporting and Investigation Procedures

(1) Actions. When an accident involving equipment or personnel from one country occurs on the territory of another, the military authorities of the host nation shall:

(a) Help the injured in every way possible and remove any fatalities.

(b) Provide a medical doctor, preferably with specialist aeromedical qualifications, to begin the investigation and help the medical member or advisor to the Accident Safety Investigation Committee.

(c) Secure the accident site until Accident Safety Investigation Committee has taken action to have the wreckage removed or has accepted the responsibility to guard it. Whatever their source, guard details will abide by the rules of the host nation. Do not move the wreckage without first mapping, drawing or photographing it.

(d) In the case of fatal accidents:

1. The host nation will detail an officer to insure all necessary legal steps required by the local civilian authority are completed expeditiously.

2. The local military authorities shall honor the dead and respect the desires of the involved nations.

(2) Reporting. The host nation shall also:

(a) Report the accident to the appropriate agencies in their own country. Inform the nearest representatives of the military authorities of the countries concerned. Invite the operating nation to send an Accident Safety Investigation Committee.

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(b) Report the names, location, and condition of any injured persons to the operating nation's authorities.

(c) The country of occurrence shall immediately send an officer to the scene of the accident to help with the Accident Safety Investigation Committee's work. This officer should collect any statements or other evidence and be prepared to help the Committee as liaison between the civilian authorities of the host nation and the Accident Safety Investigation Committee.

(3) Investigations

(a) There are three types of national safety investigations.

1. Military Hardware Only. The operating nation will normally be allowed to conduct its own safety and legal investigation when the only damage and injury are to its own hardware and personnel. The country of occurrence may assign a liaison officer or observer to your safety board. Note that this may only be done with COMNAVSAFECEN concurrence. Do not share privileged information with these people.

2. Military Hardware Belonging to More Than One Nation. The operating nations of the two or more involved parties will form a combined safety investigation board or committee. (See paragraph 610b(3)(b).) Each nation will conduct their own legal investigation.

3. Military and Civil Aircraft Midairs. Most nations require civil aviation authorities to be the primary investigative agency when civil aircraft are involved. In this situation, ask to assign a military representative to the civil investigation. You must still conduct a separate investigation under the rules of this instruction.

(b) Combined Safety Investigations into Military Accidents or Incidents

1. The following rules shall apply:

a. After consulting with NAVSAFECEN use a Combined Aircraft or Missile Accident Safety Investigation Committee to investigate all aircraft and missile accidents or incidents involving equipment, facilities or personnel of two or more nations. Aircrew on Foreign Exchange Duty are exempt.

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b. Promises of confidentiality will not be given when a combined investigation is convened.

c. Composition of Combined Safety Investigation Committee:

(1) Construct the Combined Aircraft or Missile Safety Investigation Committees from such investigators and technical advisors as the countries involved feel is necessary.

(2) When notified of this kind of mishap, the effected nations shall tell their counterparts in the country of occurrence of the names of the officers in their investigating group and will, after consulting with COMNAVSAFECEN, designate a senior member.

(3) Form the investigators and technical advisors of member nations involved into one investigating committee, working under the unified direction of a coordinating group.

(4) The senior member of each nation's investigation group comprises the coordinating group for the investigation.

(5) The senior member of the group appointed by the operating nation becomes President of the Combined Safety Investigation Committee.

(6) All nations involved must agree on the Presidency of the Combined Safety Investigation Committee whenever aircraft or missiles of two nations are involved in an accident over the territory of a third.

(7) When the Committee cannot agree on the causes of an accident, each nation may state its point of view.

(8) The U.S. members will submit a report to COMNAVSAFECEN using the format in this instruction after the combined investigation has been completed.

c. Combined Safety Investigations Into Military and Civil Aircraft Accidents. Conduct international investigations of accidents involving civil and military aircraft under Annex 13

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to the Convention on International Civil Aviation. The coordinating group shall be responsible for overall direction of the investigation, shall organize the investigating committee into specialized subcommittees as necessary, and shall conduct the investigation under the procedures normally used by the operating nation.